FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-8007

Boise Building Solutions
610 W. 3rd Avenue
Kettle Falls, WA 99141-9601

SUMMARY

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST 8007. The Department of Ecology is proposing to renew this permit, which will allow Boise Sawmill to continue discharging process wastewater to a non-discharge evaporation pond. This fact sheet explains the nature of the proposed discharges, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical basis for those decisions.

Boise Sawmill's final wastewater disposal is an evaporation pond built in early 1980's. The pond was constructed with a 6" bentonite liner which may not be acceptable treatment technology for a waste water pond with today's standard. During this permit renewal, Boise will either complete a hydrogeologic study of the groundwater or complete an AKART study of its existing pond and implement the conclusions of the study prior to the expiration of this permit. In either case, wastewater monitoring at the pond will be required during this permit cycle.

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INTRODUCTION

Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the state include procedures for issuing permits (Chapter 173-216 WAC), and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. The Department had not received any public comments for this permit during past issuance or re-issuance of the permit, therefore the Department will not publish public notice for comments for renewal of this permit. The Department will summarize response to the comments received from the company during the last factual review period. The summary and response to comments will be attached to the fact sheet in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	Boise Building Solutions, Sawmill
Facility Address	610 W. 3rd Avenue, Kettle Falls, WA 99141
Type of Facility	Lumber Manufacturing
Type of Treatment:	Non-discharge, non-overflow evaporation pond
Discharge Location	Latitude: 48° 36' 38" N Longitude: 118° 04' 25" W.
Contact at Facility	Name: Jennifer Wasley Title: Environmental Engineer Telephone #: (509) 738-3219 Fax #: (509) 738-3292
Responsible Official	Name: Tom Insko Title : Region Manager Telephone #: (509) 738-3215 Fax #: (509) 738-3292

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

Boise Sawmill plant is located in Kettle Falls, Washington, approximately 80 miles north of Spokane on State Highway 395 (Figure 1). The facility occupies approximately 53 acres, and is upstream of Lake Roosevelt. The sawmill plant produces dimension lumber and by-product pulp chips and planer shavings. The sawmill facility consists of a log yard, sawmill, dry kilns, planning facility, hog fuel boiler, lumber storage, maintenance shop, warehouse and office building.

INDUSTRIAL PROCESSES

The sawmill production sequences include: log debarking, bucking, cutting, sorting, drying, planning, grading, trimming, sorting, and packaging for shipment. The facility production line operates five days a week, and 2 shifts per day. The hog fuel boiler is used to generate steam to feed the dry kilns for lumber drying.

The facility produced about 34 MBF (million board feet) of finished lumber in 2003 as its primary product. Secondary products include about 10,000 bone dry tons (BDT) of pulp chips per year and 17,000 BDT of planer shavings per year.

TREATMENT PROCESSES

The sources of process wastewater are mainly generated from boiler operation which consists of approximately 3,800 gpd (gallons per day) boiler blow down, 100 gpd muddrum and about 1000 gpd softener wash water. The steam generated from the boiler is used for drying the lumber. The condensate leakage at the dry kiln is estimated to be less than 50 gpd. The sawmill band saw cooling water is approximately 600 gpd. All these process waters are discharged to the evaporation pond. A process water flow diagram is attached as Figure 2. A break down of wastewater streams are listed in the table below.

Processes	Process wastewater	Disposal Method
Boiler: blow down	3,800 gpd	evaporation pond
muddrum	100 gpd	evaporation pond
softner back wash	1,000 gpd	evaporation pond
Band saw cooling:	600 gpd	evaporation pond
Dry kiln steam condensate:	50 gpd	evaporation pond
Maintenance shop:	1,500 gpd	city sewer

There is an onsite septic tank and drain field system for receiving discharges from bathrooms in planer mill and sawmill. The main office building domestic/sanitary wastewater and the maintenance shop wash water discharge to the City of Kettle Falls sewer system.

The final wastewater disposal is a pond for year-around wastewater storage and evaporation. The pond was built in early 1980's with a 6" mixture of native soil and high-swelling sodium bentonite liner. During renewal of this permit, the Permittee will either complete a hydrogeologic study or submit an engineering report for AKART analysis and complete the recommendations made in the report.

PERMIT STATUS

The previous permit was renewed on August 10, 1998, and expired on June 30, 2003. An application for permit renewal was submitted to the Department on December 31, 2002, and accepted by the Department on March 31, 2003.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on April 1, 2004.

During the previous permit cycle, the Permittee monitored the wastewater discharges from the maintenance shop for oil and grease. This discharge goes directly to the city sewer. The Permittee monitored this discharge and was often above 50 mg/l which is the current permit limit. However, because this waste water was discharged to the sanitary sewer, the exceedance of Oil & Grease limit did not result in a violation of receiving POTW's local limit.

During renewal of this permit, it was clarified by the City of Kettle Falls that the city's sewer ordinance does not contain limitations for oil and grease. The City does not consider Boise Sawmill's maintenance shop wash water as industrial discharge flows. However, the City will inspect the facility under building code provisions. Additionally, the City would like Boise Sawmill to keep monitoring of oil and grease in the discharge under State Waste Discharge Permit.

Flows to the evaporation pond were estimated during August 1998 and December 2002 period. The estimated flows vary substantially. In January 2003, a flow meter was installed to measure the flows from the sawmill to the evaporation pond. Discharge flows from the boiler process are tracked by the boiler operator by metering and estimating. The recorded flows have shown consistency, however the data are higher than the permitted flow limit of 3,500 gpd (gallon per day) on a regular basis. It is recommended that the flow limit be modified to 9500 gpd during this permit renewal.

WASTEWATER CHARACTERIZATION

Wastewater parameters monitored at this facility are flow and pH at the non-discharge pond, and oil & grease at the maintenance shop prior to discharge to the city sewer. Flows to the pond were estimated during the first three years of monitoring and proved to be unreliable until after a flow meter was installed in 2003. pH ranges between 10 and 12 in the pond water which appears to be high. Water discharged to the sanitary sewer from the maintenance shop was monitored quarterly and the oil and grease results ranged from 19 mg/l to 125 mg/l. The data that exceeded

50 mg/l are considered elevated, but are not considered causing any impact to the receiving POTW's operations, or environmental impact. During renewal of this permit, the oil and grease limit is removed, but the monitoring program will continue. Charts and DMR data spreadsheets are not attached with the fact sheet.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not pollute the waters of the State.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of preventing, control, and treatment of discharges to waters of the state (WAC 173-216-110). There are federal categorical limitations for this facility listed under 40 CFR Part 429, Subpart K (429.120) –Sawmills and Planing Mills Subcategory. This subpart applies to processing procedures including: bark removal, sawing, resawing, edging, trimming, planning and machining. Effluent limitations (40CFR, 429.121) for existing point source state: There shall be no discharge of process wastewater pollutants into navigable waters. Subpart L (429.130)—Finishing Subcategory covers processes from: drying, planning, dipping, staining, end coating, moisture proofing, fabrication, and by-product utilization timber processing operations. Effluent limitations (40CFR, 429.131) for existing point source must achieve the degree of effluent reduction attainable by the application of the best practicable control technology (BPT): There shall be no discharge of process wastewater pollutants into navigable waters.

The sources of process wastewater from this sawmill facility are from boiler blow downs and maintenance shop discharges. The federal regulation does not cover these waste streams. However, state regulations (RCW 90.48, WAC 173-216-110, WAC 173-220-130, and WAC 173-221A) require: all wastewater must be treated using all known, available, and reasonable treatment (AKART) prior to discharge wastewaters to waters of the state.

While the permit is up for renewal, the company is required to explore all know and available technologies to meet minimum AKART requirement. The specific procedures to do so are outlined in the Compliance section of the fact sheet and the permit. The Department encourages the Permittee to take the most cost effective and proactive approach to ensure the evaporation pond meets AKART requirement and upgrade its facility when there is a definite need.

EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS

In order to protect City of Kettle Falls Wastewater Treatment Plant from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, limitations for certain parameters are necessary.

The Sawmill's maintenance shop is connected to the city's sewer system, and the facility has been monitoring the Oil & Grease from the discharge to the city during the last and current permit cycle. The city of Kettle Falls does not consider the auto maintenance shop discharge as industrial wastewater; therefore they do not impose any discharge limits on the discharge.

The City of Kettle Falls currently does not have local limit for Oil & Grease, therefore, it is recommended that the Oil & Grease limitation of 50 mg/l be removed from the current permit. However, the City did recommend the monitoring of Oil & Grease be continue, and this is consistent with Department's recommendation to keep current monitoring program in place for oil and grease.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

WASTEWATER MONITORING

The monitoring schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

The following parameters will be monitored at the evaporation pond (except Oil & grease) until the Permittee can demonstrate compliance with AKART requirement. The monitoring data will establish baseline information for the pond water and to provide data comparisons in case the Permittee determines to pursue the ground water investigation in the pond area.

The detailed monitoring is as following:

Table 1. Wastewater Monitoring

Parameter	Sample Point	Sample frequency	Sample Type
Flow (gpd)	Pump meter + estimate	1/month	meter + estimate
TDS (mg/l)	The pond	1/month	grab
Nitrate (mg/l)	The pond		grab
Chloride (mg/l)	The pond		grab
TPH (mg/l)	The pond		grab
Oil & grease (mg/l)	Maintenance shop	1/month	grab

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 273-216-110).

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.4. as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that the pond is properly maintained to limit impacts to groundwater.

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The proposed permit requires the Permittee to develop and implement a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The Spill Plan can be included in the O & M Manual in a independent section.

COMPLIANCE SCHEDULE

State regulations (WAC 173-216-110, WAC 173-240-130) requires all industry facilities to explore applicable method to prevent, control, and treat waste discharges using all known, available, and reasonable treatment (AKART). The issue of concern is integrity of the wastewater storage/evaporation pond system. The Permittee has two compliance options in the permit. Detailed compliance options and schedules are listed as following:

Notice letter from the facility specifying compliance options: No later than May 31, 2005, the Permittee should notify the Department of its selection of compliance options which are outlined below. Then either Option A or Option B will become enforceable, and will be tracked of its compliance progress through Ecology's WPLCS (Water Permit Life Cycle System) data base.

Option A

Scope of Hydrogeologic Study Report: No later than October 1, 2005, the Permittee should submit to the Department the Scope of Hydrogeologic Study around the pond area. This scope of work requires the Department's review and approval prior to conducting field work.

Hydrogeologic Work Report: No later than April 1, 2006, the Permittee should submit to the Department the Hydrogeologic Study Report. This report should document all field works being done based on the scope of study, and recommend all monitoring schedules for ground water wells.

The Final Hydroeologic Study Summary Report: No later than June 30, 2009, the Permittee should submit the final Hydrogeologic Study Summary Report. This report is to summarize three years of ground water monitoring data, provide conclusions for the study, and make recommendations for future course of action needs to be taken toward AKART compliance.

Option B

AKART Engineering Report: An AKART Engineering report regarding upgrading the existing pond system should be submitted to the Department no later than December 1, 2005. The format and technical aspect of the report should follow the requirement in WAC 173-240. At a minimum the report should include: 1) evaluation of all sources of wastewater; 2) quantity of each stream and the total wastewater flow in gallons per day; 3) wastewater characteristics based on at least 6 months of monitoring data; and 4) final AKART recommendation for process water treatment and disposal.

Plans and Specifications No later than July 31, 2006, Boise Sawmill Company should submit the plans and specifications following the recommendation in the AKART engineering report. This submittal is required according to WAC 173-240 for Department review and approval prior to construction.

Final Construction No later than December 31, 2007, the final recommendations of the engineering report should be completed. If any upgrade of the wastewater treatment is recommended, such construction shall be complete no later than December 31, 2007. A field inspection will be performed by Ecology engineers to confirm the completion of the project.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. The Department proposes that the permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology, 1993. Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, Ecology Publication # 93-36. 20 pp.

Washington State Department of Ecology, 1996. Implementation Guidance for the Ground Water Quality Standards, Ecology Publication # 96-02.

APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on July 3, 2002 and July 10, 2002 in the Statesman-Examiner to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

Further information may be obtained from the Department by telephone, (509) 329-3451, or by writing to the address listed above.

This permit was written by Ying Fu.

APPENDIX B--GLOSSARY

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of

industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C – FIGURES, SCHEMATICS AND TABLES

Figure 1 Boise Sawmill Location Map

Figure 2 Wastewater Schematic